

CLAIMS

- (1) A method for producing biodegradable fiber material moldings comprising steps of mixing plant fiber powder with plant binder powder, which is a mixture of starch powder and gummy matter powder, mixing the mixture of the plant fiber powder and the plant binder powder with water to form plant fiber molding material, and molding the plant fiber molding material.
- (2) A method for producing biodegradable fiber material moldings comprising steps of mixing 2 to 17 weight parts of plant fiber powder with 1 weight part of plant binder powder, mixing 3 to 9 weight parts of the mixture of the plant fiber powder and the plant binder powder with 1 weight part of water to form plant fiber molding material, and molding the plant fiber molding material.
- (3) A method for producing biodegradable fiber material moldings of claim 2, wherein the plant binder powder is starch powder.
- (4) A method for producing biodegradable fiber material moldings of claim 2 or 3, wherein the plant binder powder is a mixture of starch powder and gummy matter powder.
- (5) A method for producing biodegradable fiber material moldings of claim 1 or 4, wherein the gummy matter is water soluble polysaccharide.
- (6) A method for producing biodegradable fiber material moldings of claim 5, wherein the water soluble polysaccharide is one or more selected from the group consisting of xanthan gum, tamarind seed gum, gellan gum, carrageenan, pullulan, guar gum, locust bean gum, tara gum, pectin, alginic acid, and agar.
- (7) A method for producing biodegradable fiber material moldings of claim 5, wherein the water soluble polysaccharide is one or two selected from the group consisting of xanthan gum and tamarind seed gum.
- (8) A method for producing biodegradable fiber material moldings of anyone of claims 1 to 7, wherein particle size of the plant fiber material powder is 60 to 200 mesh.
- (9) A method for producing biodegradable fiber material moldings of claim 8, wherein the

water content of the plant fiber material powder is 4 to 20 weight %.

(10) A method for producing biodegradable fiber material moldings of claim 9, wherein plant fiber material with a water content of 40 to 50 weight % is washed and sterilized by 150 to 180°C steam, pressurized and dehydrated, heated and dried, and impacted on and
5 crushed to obtain plant fiber powder with a water content of 4 to 10 weight %, whereafter the plant fiber powder is dispersed into an ascendant air current to be classified, and led into a cyclone dust collector to be classified, in an environment excluded from outside air, to obtain plant fiber powder with 60 to 200 mesh particle size and a water content of 4 to 10 weight %.

10 (11) A method for producing biodegradable fiber material moldings of claim 9, wherein plant fiber material with a water content of 40 to 50 weight % is washed and sterilized by 150 to 180°C steam, pressurized and dehydrated, and impacted on and crushed to obtain plant fiber powder with a water content of 10 to 20 weight %, whereafter the plant fiber powder is dispersed into an ascendant air current to be classified, and led into a cyclone dust
15 collector to be classified, in an environment excluded from outside air, to obtain plant fiber powder with 60 to 200 mesh particle size and a water content of 10 to 20 weight %.

(12) A method for producing biodegradable fiber material moldings of claim 9, wherein plant fiber material with a water content of 40 to 50 weight % is impacted on and crushed to obtain plant fiber powder with a water content of 10 to 20 weight %, whereafter the plant
20 fiber powder is dispersed into an ascendant air current to be classified, and led into a cyclone dust collector to be classified, in an environment excluded from outside air, to obtain plant fiber powder with 60 to 200 mesh particle size and a water content of 10 to 20 weight %.

(13) A method for producing biodegradable fiber material moldings of claim 9, wherein
25 plant fiber material with a water content of 40 to 50 weight % is ground down to obtain plant fiber powder with 60 to 200 mesh particle size and a water content of 4 to 20 weight %.

(14) A method for producing biodegradable fiber material moldings of anyone of claims 1

to 13, wherein the plant fiber molding material is molded at a temperature of 60 to 130 °C.

(15) A method for producing biodegradable fiber material moldings of anyone of claims 1 to 14, wherein the plant fiber molding material is brought to final molding process without passing through a pre-forming process.

5 (16) Biodegradable fiber molding material comprising plant fiber powder, plant binder powder, which is a mixture of starch powder and gummy matter powder, and water, wherein the plant fiber powder, the plant binder powder and the water are mixed with each other.

(17) Biodegradable fiber molding material comprising plant fiber powder, plant binder powder and water, wherein the plant fiber powder, the plant binder powder and the water
10 are mixed with each other, and wherein the weight of the plant binder powder is 1/7 to 1/2 of the weight of the plant fiber powder, and the weight of the mixed water is 10 to 25 % of the total weight of the mixture of the plant fiber powder, the plant binder powder and the water.

(18) Biodegradable fiber molding material of claim 17, wherein the plant binder powder is starch powder.

15 (19) Biodegradable fiber molding material of claim 17 or 18, wherein the plant binder powder is a mixture of starch powder and gummy matter powder.

(20) Biodegradable fiber molding material of claim 16 or 19, wherein the gummy matter is water soluble polysaccharide.

(21) Biodegradable fiber molding material of claim 20, wherein the water soluble
20 polysaccharide is one or more selected from the group consisting of xanthan gum, tamarind seed gum, gellan gum, carrageenan, pullulan, guar gum, locust bean gum, tara gum, pectin, alginic acid, and agar.

(22) Biodegradable fiber molding material of claim 20, wherein the water soluble polysaccharide is one or two selected from the group consisting of xanthan gum and
25 tamarind seed gum.

(23) Biodegradable fiber molding material of anyone of claims 16 to 22, wherein particle size of the plant fiber material powder is 60 to 200 mesh.

(24) Biodegradable fiber molding material of claim 23, wherein the water content of the plant fiber material powder is 4 to 20 weight %.

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